

C 65

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

REQUEST FOR SECOND CERTIFICATE OF CORRECTION TO CORRECT THE
FIRST CERTIFICATE OF CORRECTION BASED ON PATENT OFFICE
MISTAKE PURSUANT TO 35 U.S.C. §254

EJ



APPLICANT(S): Heinrich Jürgensen CONFIRMATION NO.: 5122
SERIAL NO.: 09/786,742 GROUP ART UNIT: 2828
FILED: September 14, 2001 EXAMINER: James A. Menefee
PATENT NO.: 6,888,853 ISSUED: May 3, 2005
TITLE: "LASER RADIATION SOURCE"

ATTN: Certificate of Correction Branch
Commissioner of Patents
P. O. Box 1450
Alexandria, VA 22313-1450

*Certificate
JAN 06 2006
of Correction*

S I R:

Pursuant to 35 U.S.C. §254 and MPEP 1480, a Second Certificate of Correction is requested to correct Patent Office errors in the first Certificate of Correction.

In the first Certificate of Correction dated November 15, 2005 (Exhibit 1 attached), the Patent Office made errors in the drawing corrections.

In the first Request for Certificate of Correction filed May 18, 2005 in the tendered Certificate of Correction Document from Applicant, Applicant requested the following correction to the drawing figures:

"For drawing figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41, legends are added as shown on the attached drawing sheets. In the drawing sheets 1 through 39, replace drawing sheets 1, 3, 5, 6, 11, 24, 25, 26, 28, 29, 31, and 34 with the attached same numbered drawing sheets. This corrects errors in the legends."

In the first Certificate of Correction issued by the Patent Office on November 15, 2005, these instructions were not followed.

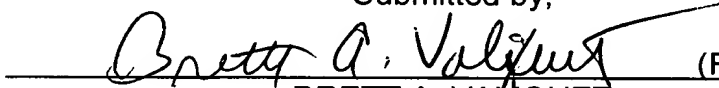
JAN 09 2006

For convenience, Applicant again encloses replacement drawing sheets 1, 3, 5, 6, 11, 24, 25, 26, 28, 29, 31, and 34 which should be attached to a Second Certificate of Correction being requested herewith to correct the drawing errors in Figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41.

The original Request for Certificate of Correction filed May 18, 2005 explains the original drawing errors made by the U.S. Patent Office necessitating the request for the first Certificate of Correction.

Attached is the requested Second Certificate of Correction.


Submitted by,

 (Reg. 27,841)

BRETT A. VALIQUET
SCHIFF HARDIN LLP
Patent Department
6600 Sears Tower
Chicago, Illinois 60606
Telephone: 312/258-5786
Attorneys for Applicant(s).
CUSTOMER NO. 26574

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA. 22313-1450 on December 29, 2005.


BRETT A. VALIQUET

**UNITED STATES PATENT AND TRADEMARK OFFICE
SECOND CERTIFICATE OF CORRECTION**

PATENT NO. : 6,888,853 B1
DATED : May 3, 2005
INVENTOR(S) : Heinrich Jürgensen

It is certified that errors appear in the **first Certificate of Correction dated November 15, 2005 for the above-identified patent**, and that said First Certificate of Correction for said Letters Patent is hereby corrected as shown below:

In the first Certificate of Correction dated November 15, 2005 after the "Drawings," the following should be stated:

Replace drawing figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41 with the attached drawing figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41 as shown on the attached pages.

MAILING ADDRESS OF SENDER:
Schiff Hardin LLP- Brett A. Valiquet
6600 Sears Tower – Patent Department
Chicago, IL 60606

PATENT NO. 6,888,853 B1

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This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9 199 and select option 2.

UNITED STATES PATENT AND TRADEMARK OFFICE
SECOND CERTIFICATE OF CORRECTION

PATENT NO. : 6,888,853 B1
DATED : May 3, 2005
INVENTOR(S) : Heinrich Jürgensen

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In the first Certificate of Correction dated November 15, 2005 after the "Drawings," the following should be stated:

Replace drawing figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41 with the attached drawing figures 1, 4, 4b, 4c, 8, 29, 32, 33, 35, 36, 37 and 41 as shown on the attached pages.

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Chicago, IL 60606

PATENT NO. 6,888,853 B1

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If you need assistance in completing the form, call 1-800-PTO-9 199 and select option 2.

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JAN 09 2006

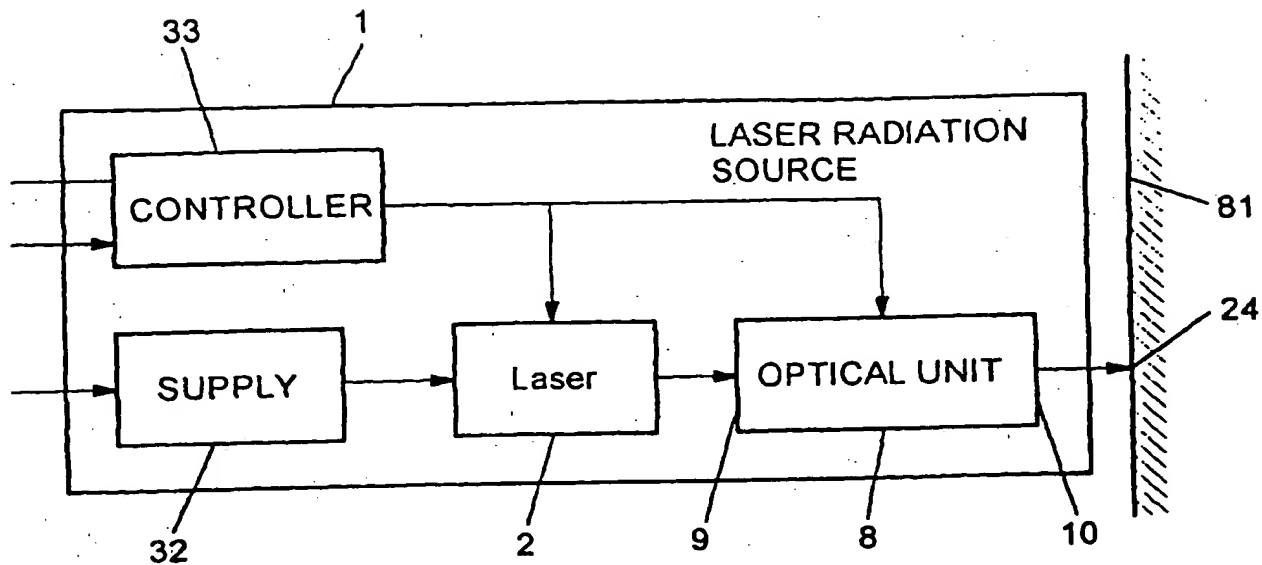


Fig. 1

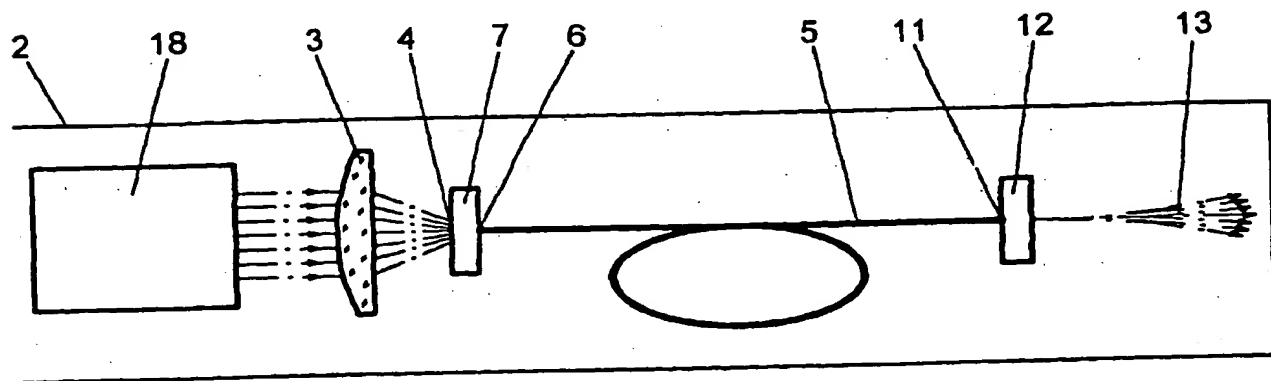


Fig. 2
(PRIOR ART)

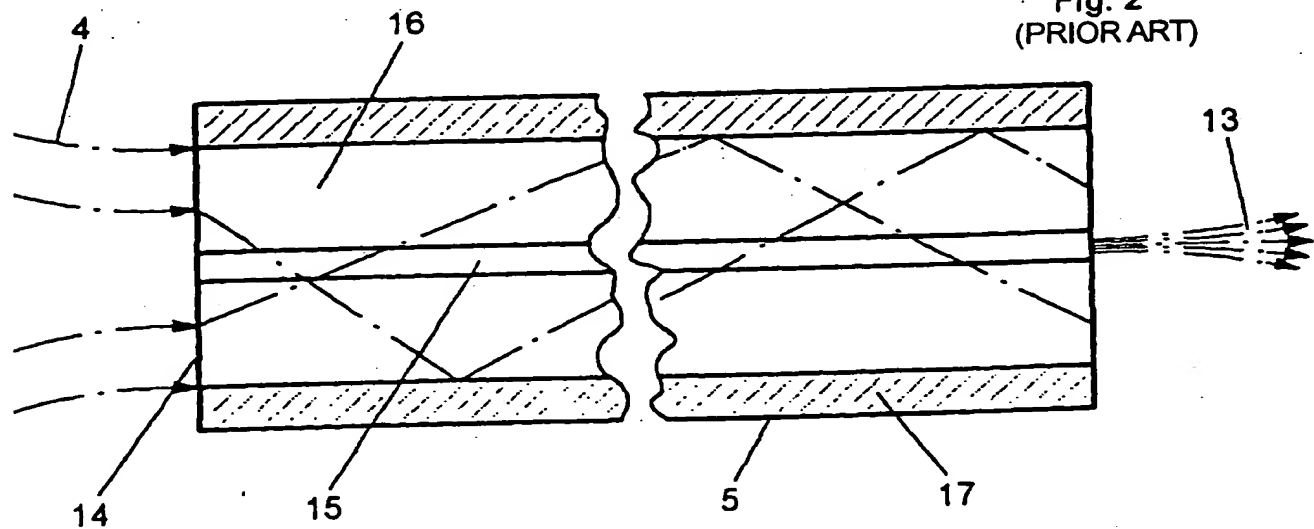


Fig. 2a
(PRIOR ART)

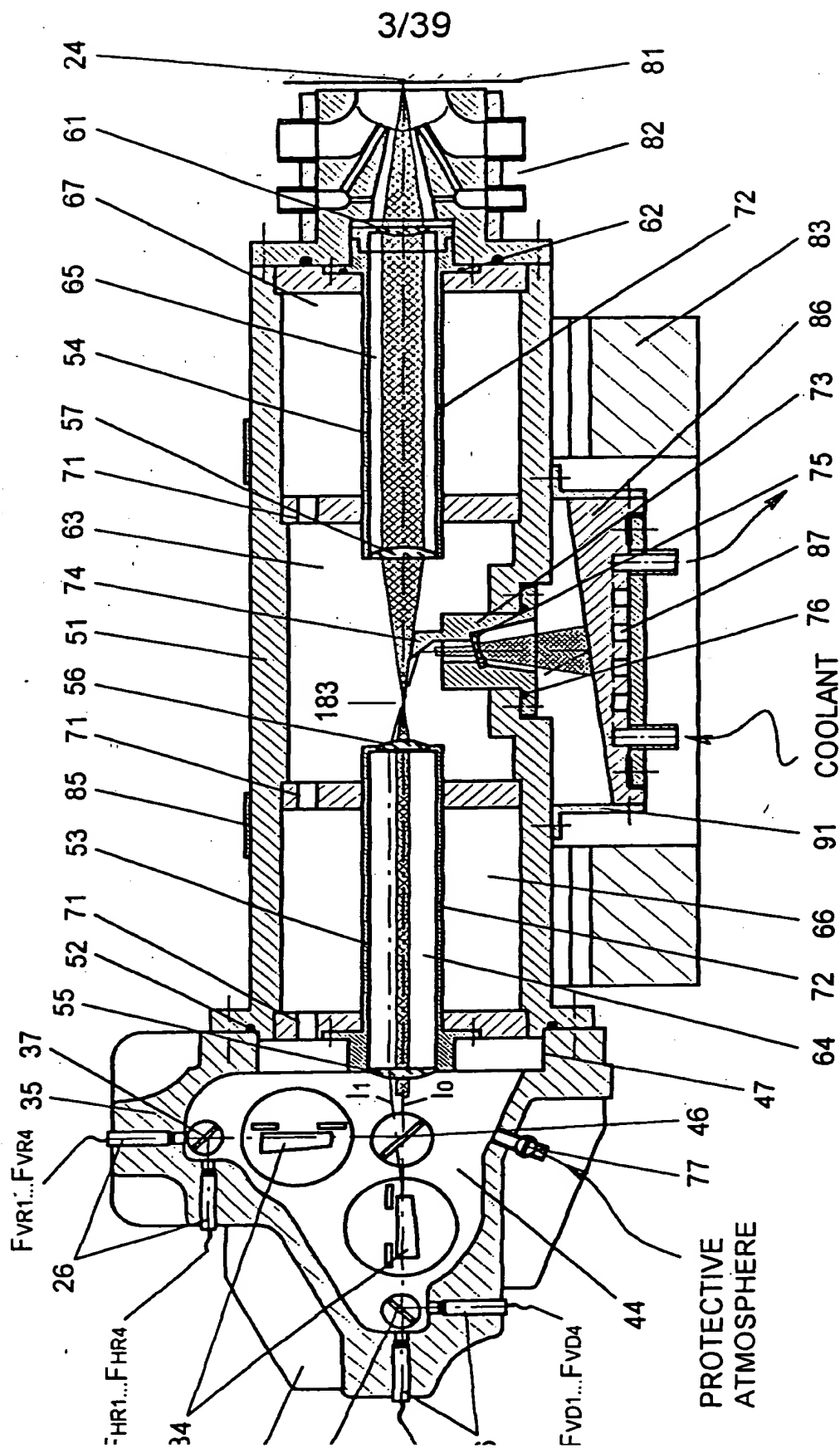


Fig. 4

5/39

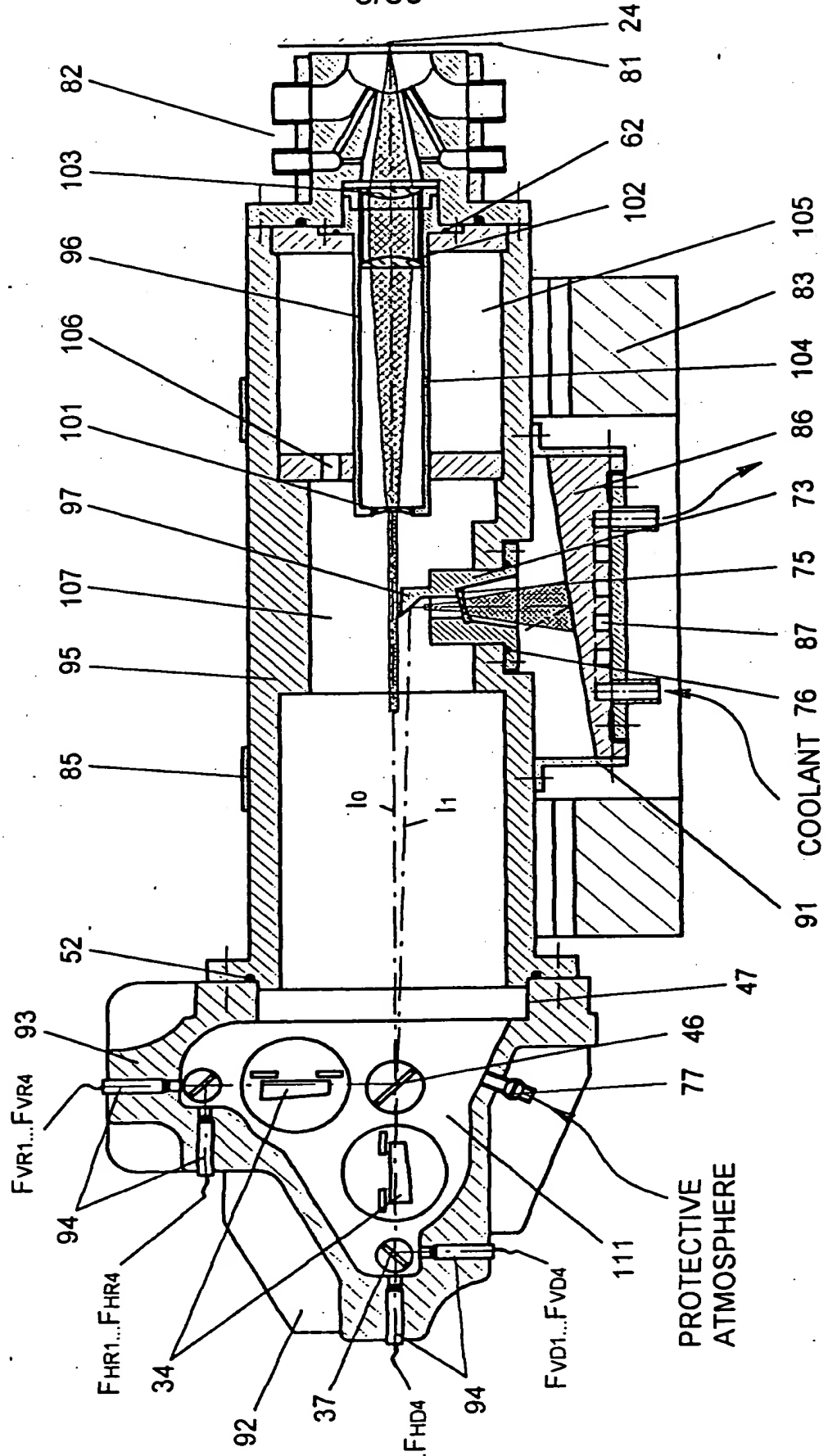


Fig. 4b

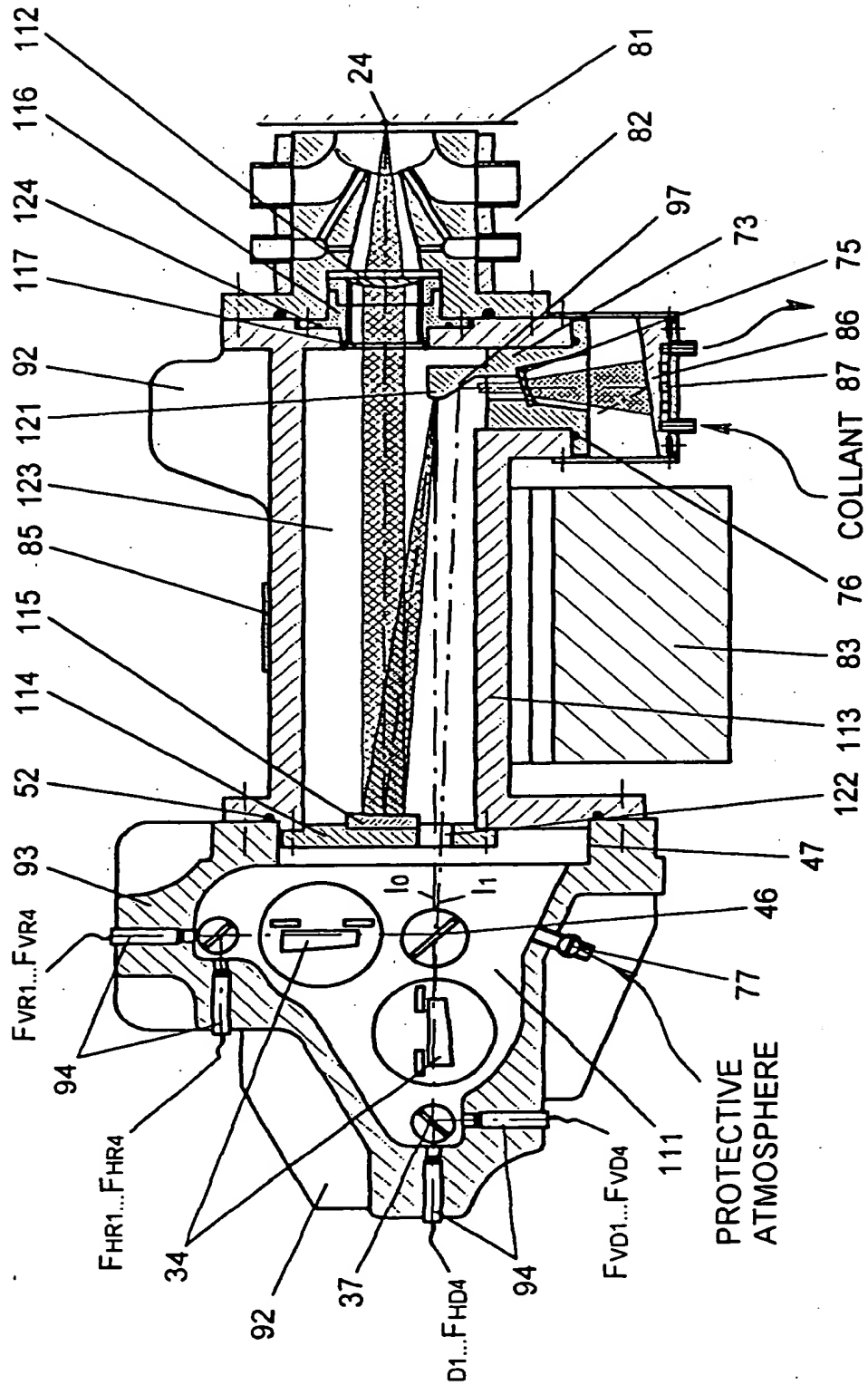
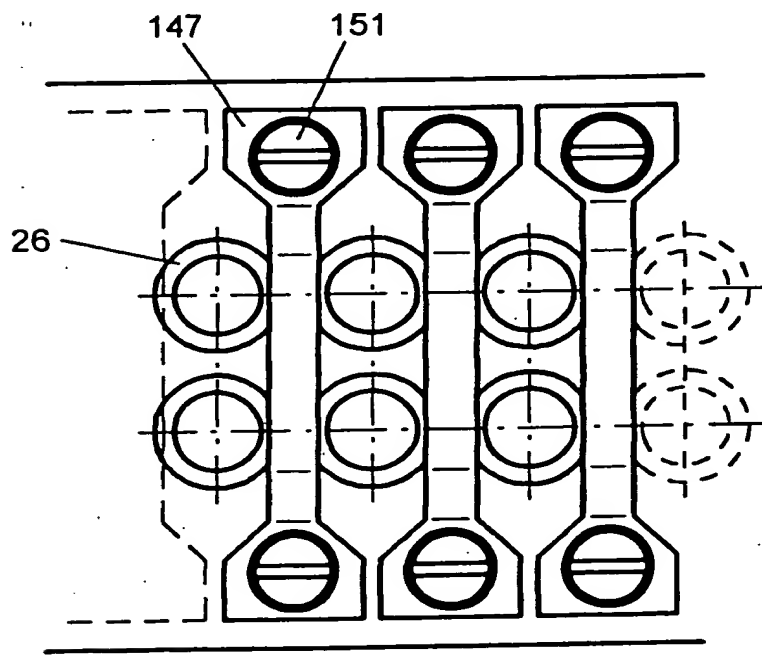
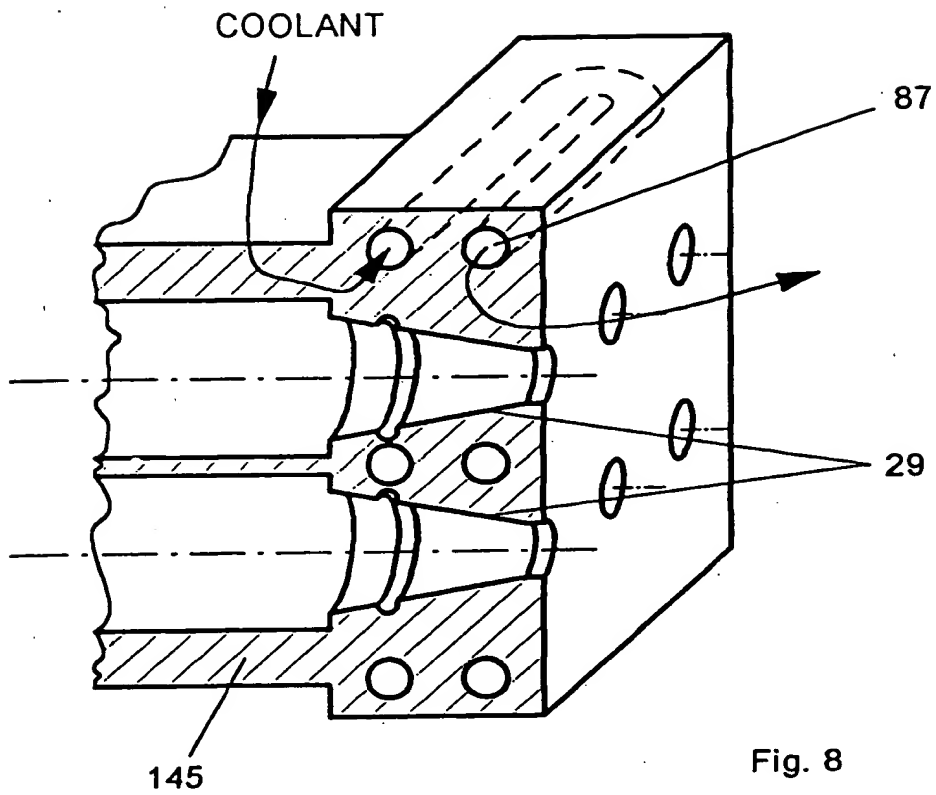


Fig. 4c



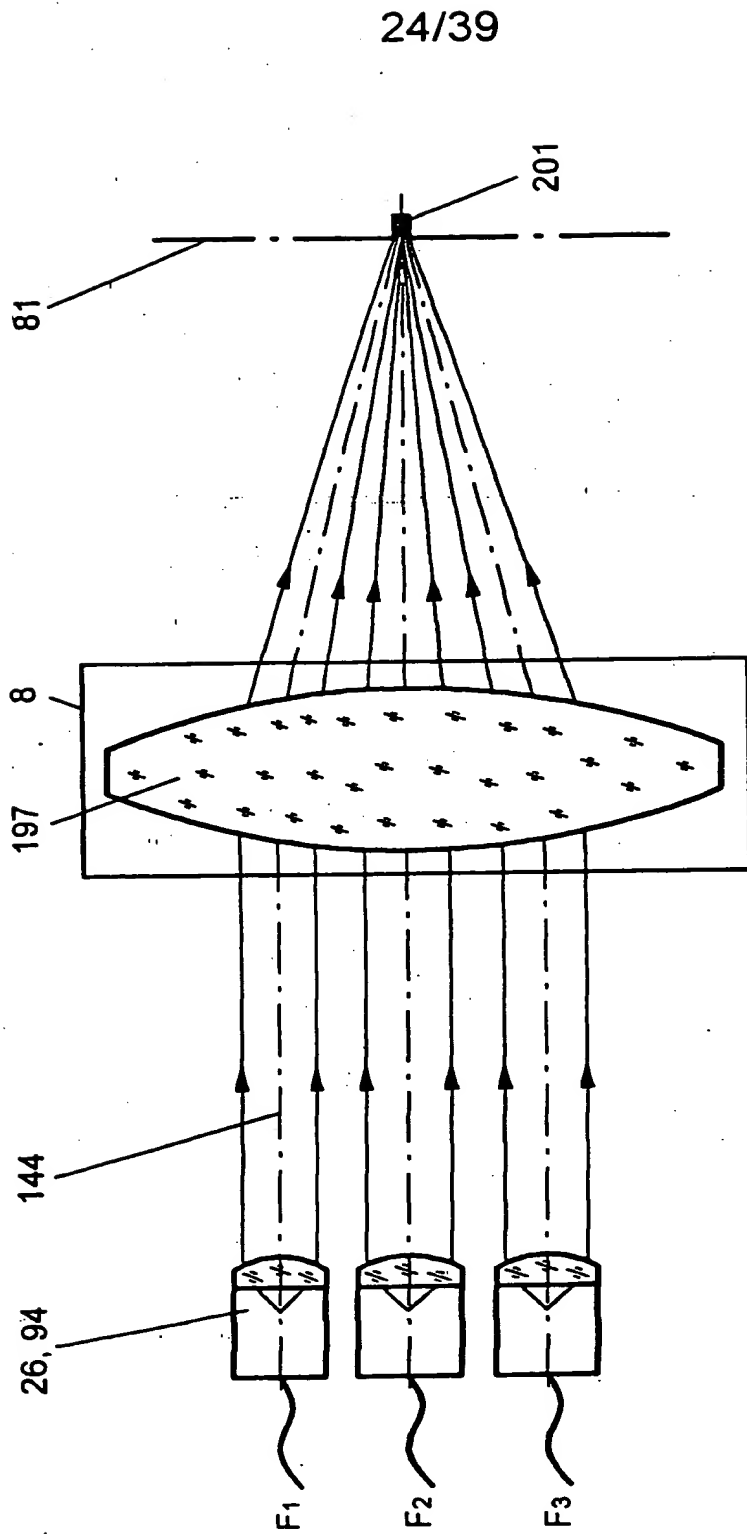


Fig. 31

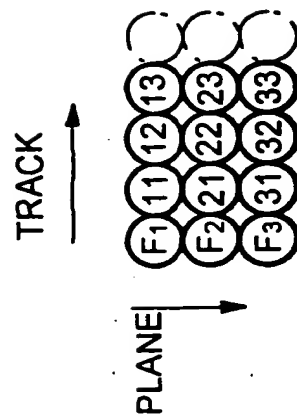


Fig. 29

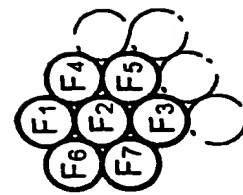


Fig. 30

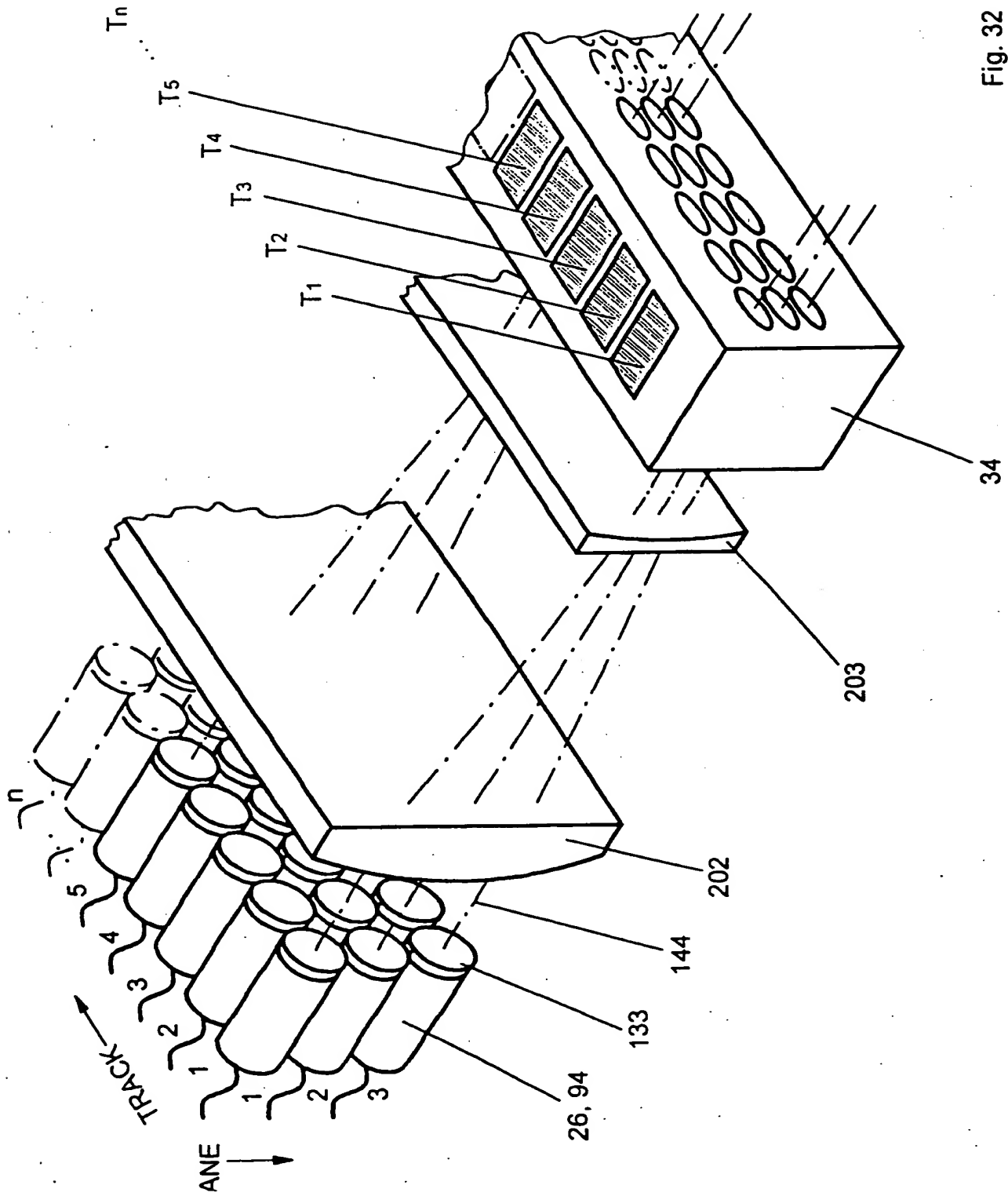
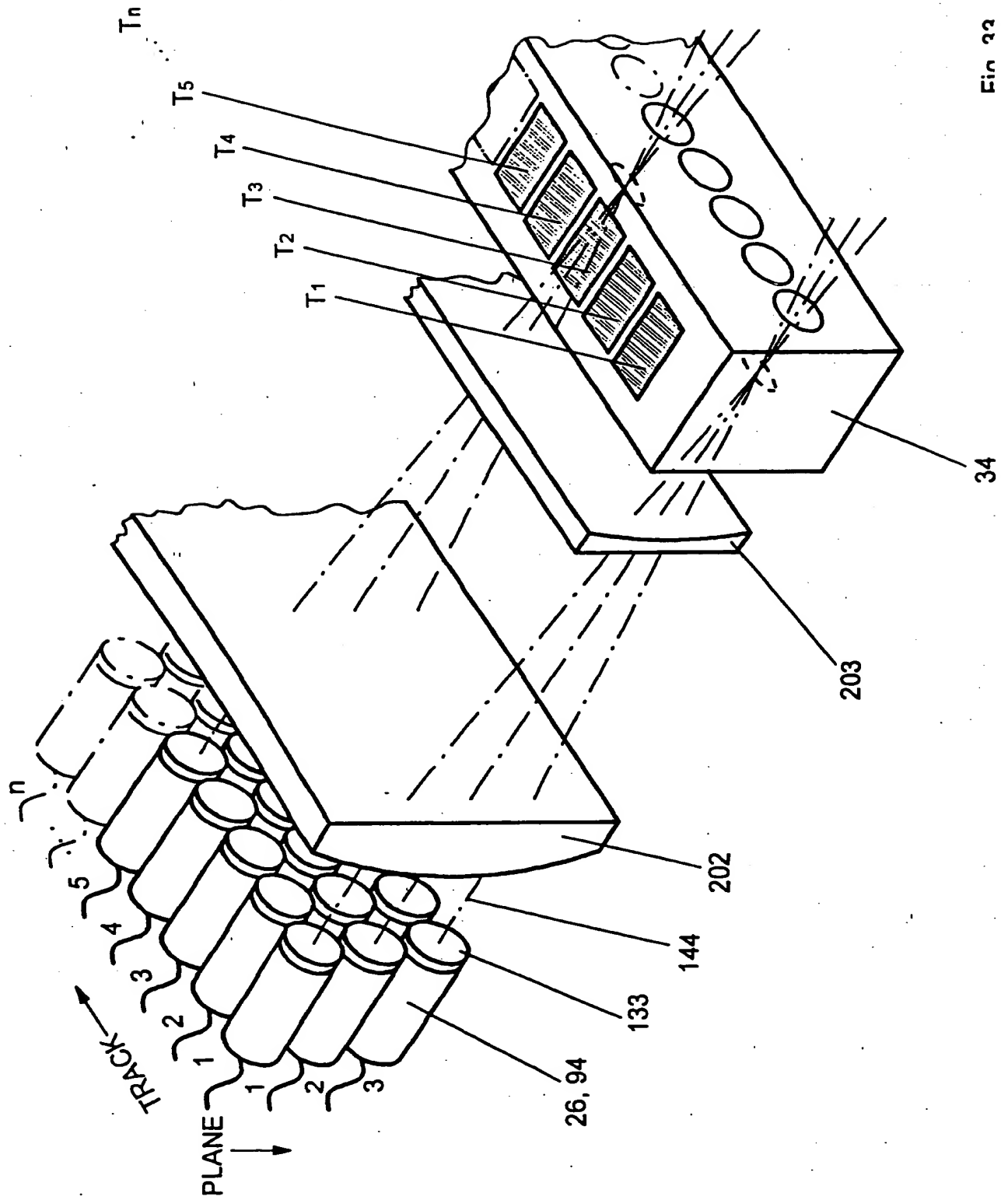


Fig. 32



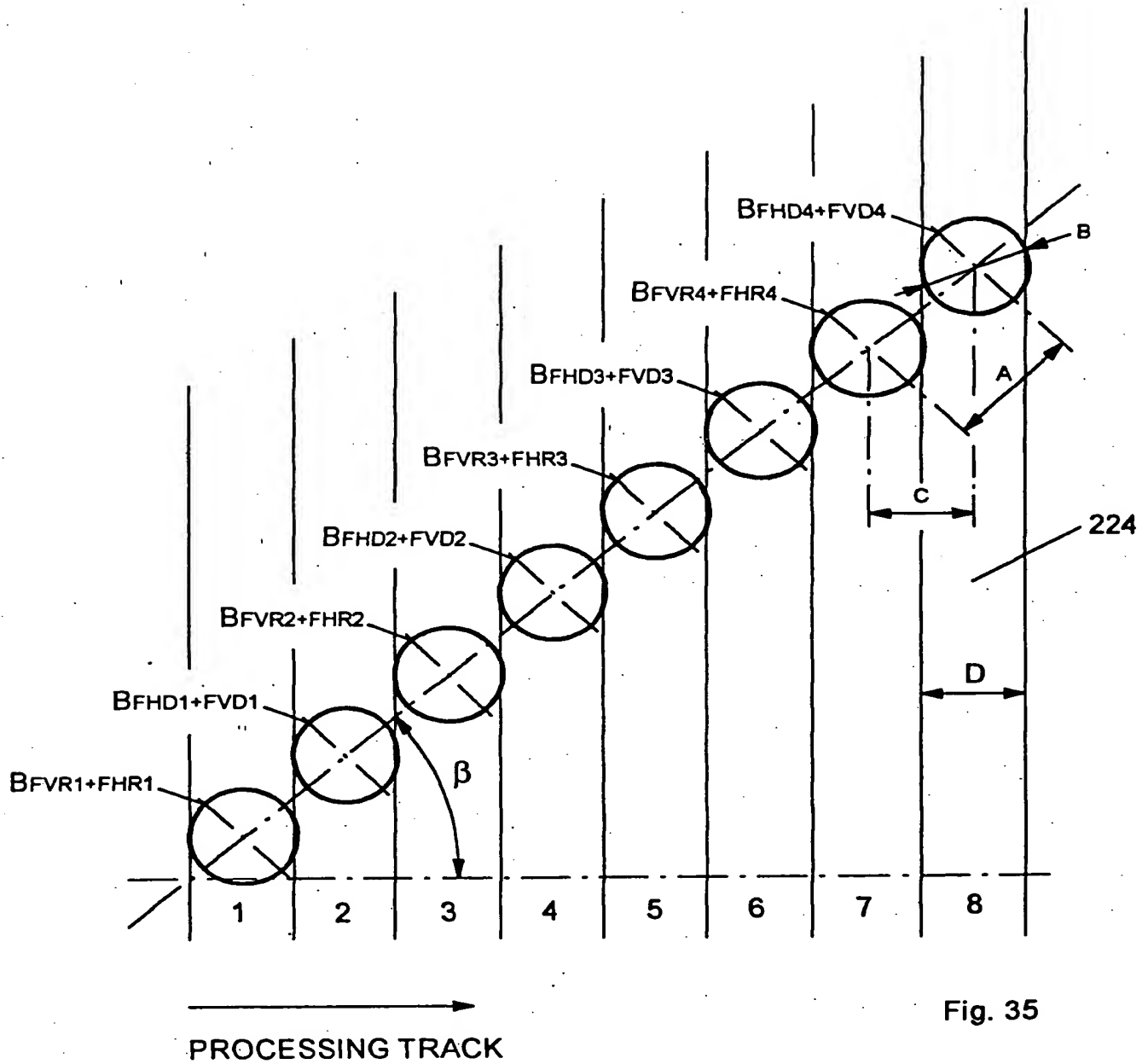
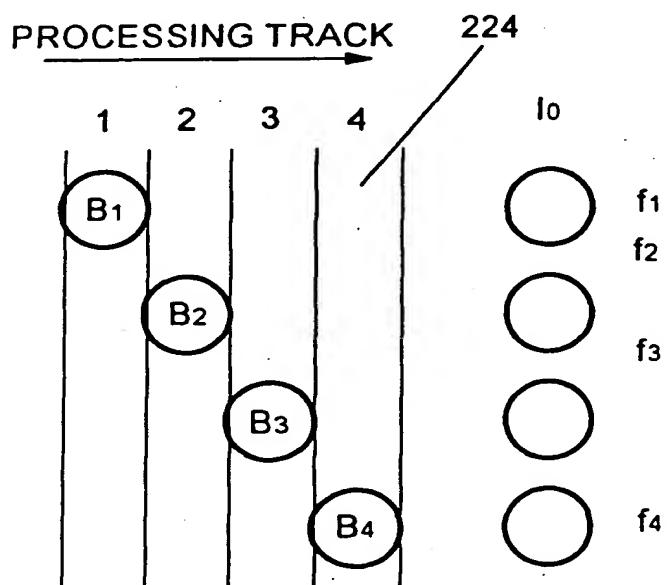


Fig. 35



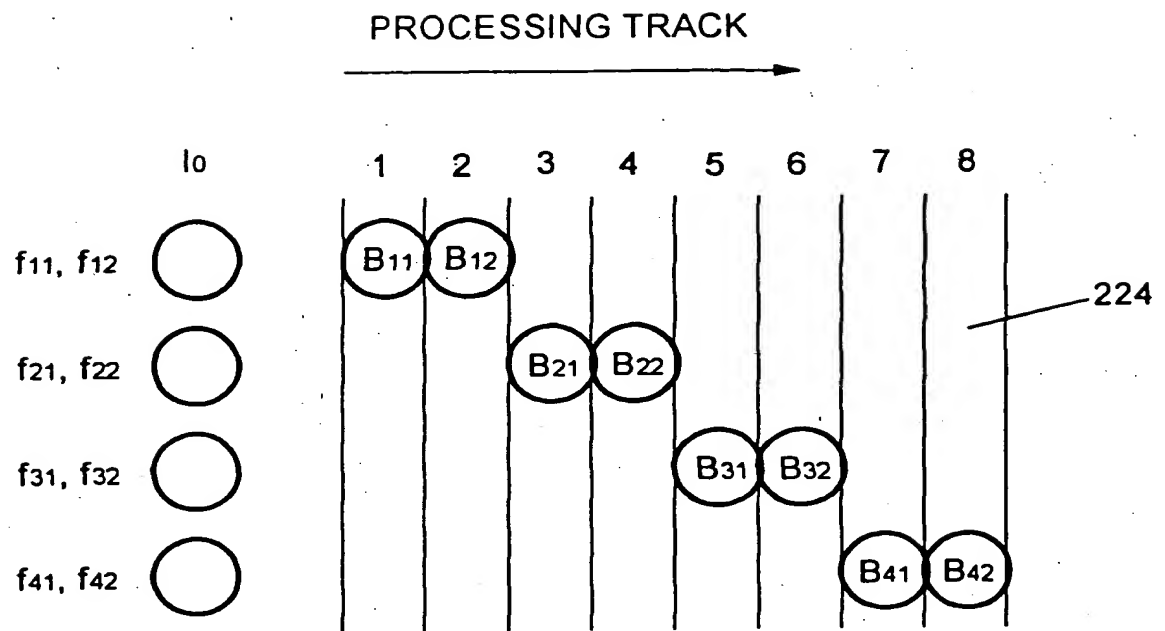


Fig. 37

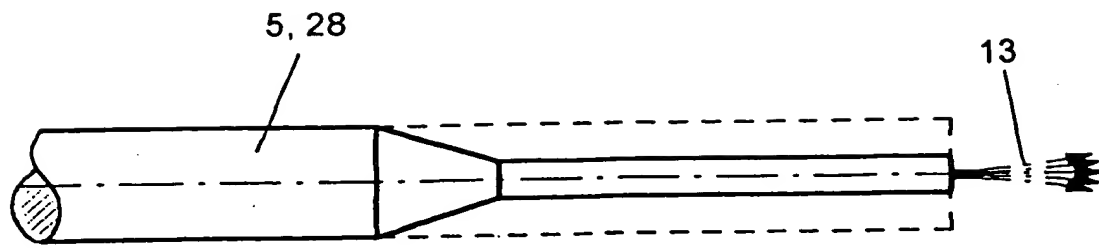


Fig. 40

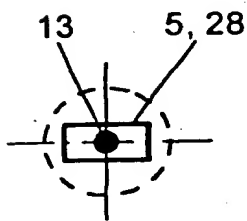


Fig. 40a

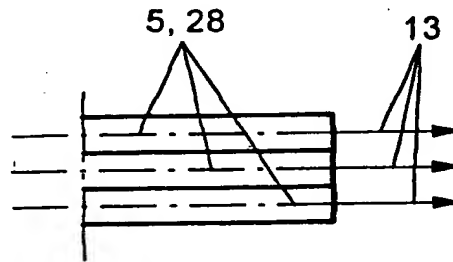


Fig. 40b

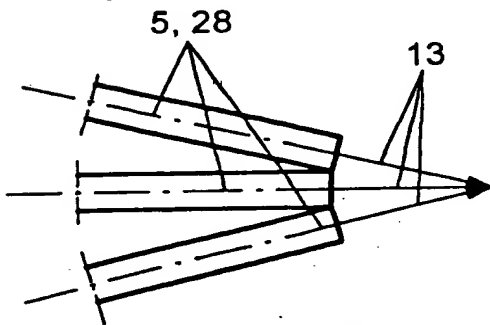


Fig. 40c

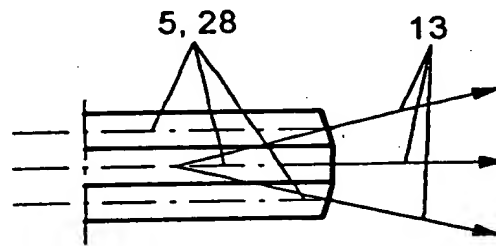


Fig. 40d

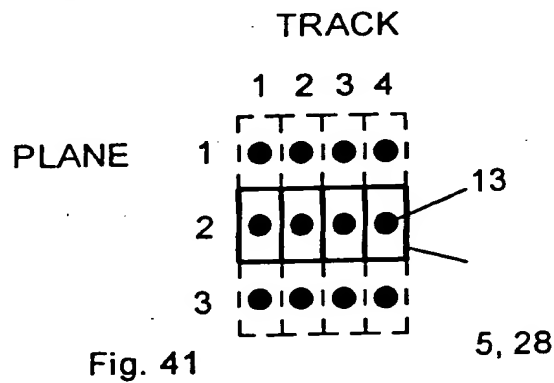


Fig. 41

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

ALL-STATE LEGAL®

EXHIBIT

1

PATENT NO. : 6,888,853 B1
DATED : May 3, 2005
INVENTOR(S) : Heinrich Jurgensen

Page 1 of 14

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

The Title page should be deleted and substituted with the attached title page.

Title page,

Item [56], References Cited, substitute the following references:

-- U.S. PATENT DOCUMENTS

3,931,458 A *	1/1976	Dini.....	358/3.29
RE32,139 E *	5/1986	Taudt et al.....	358/524
4,729,037 A *	3/1988	Doelves.....	358/3.29
5,084,882 A	1/1992	Hughes.....	372/6
5,202,893 A *	4/1993	Kubota et al.	372/34
5,337,325 A	8/1994	Hwang.....	372/36
5,363,233 A *	11/1994	Pernick.....	359/316
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5,798,202 A *	8/1998	Cushner et al.	430/306
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5,900,109 A *	5/1999	Sanders et al.	156/552
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6,283,022 B1 *	9/2001	Kamen et al.	101/129

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UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 6,888,853 B1
DATED : May 3, 2005
INVENTOR(S) : Heinrich Jurgensen

Page 2 of 14

It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

Title page (cont'd),

OTHER PUBLICATIONS

Optik und Atomphysik"; R. W. Pohl; 13. Auflage; Springer Verlag 1976: Sete 13; Abb 2.21
Lehrbuch der Experimentalphysik, Band III, Optik: I Bergmann-Schaefer; 7. Auflage; De Gruyter 1978
Seite 152
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Laser in der Druckindustrie; Werner Hülsbusch, Konstanz; Seite 4341; Abb. 7-28 etc. 1990
Fiber Technology Ushers In New Laser Devices - Feature: Fiber Lasers May 1991 Laser Focus World-
pp. 231-238.
Leistungskalierun von Faserlasern; Fachbereich Physik der UNI Hannover; Dipl-Phys. Zellmer; 1996
Direktes Lasergraviervverfahren für metallbeschichtete Tiefdruckzylinder" Dr. phil. Nat Jacob
Frauchinger, MDC Max Dätwyler AG, Darmstadt; 12. Dez. 1996
Schäfer & Kirchoff Opto-Sensorik Und Messtechnik - January 1997
Katalog Fa IPG Laser GmbH; D-57299 Burbach; (IRE-Polus Group); 1997
Gesamtkatalog G3; Best j- Nr. 650020; Fa. Laser Spindler & Hoyer, Göttingen; Seiten F16-F33; Seite
G16; Seiten K16 und K17
Optimization of micro channel heat sinks for high power diode laser in copper technology; SPIE
Proceedings Vol 3097, 1997
1998 Semiconductor Laser Product Catalog-SDL Copyright 1997 SDL, Inc. pp. 40-45

* cited by examiner

Drawings,

Replace Figures 1, 3, 5, 6, 11, 24, 25, 26, 28, 29, 31, and 34 with the attached Figures 1,
3, 5, 6, 11, 24, 25, 26, 28, 29, 31, and 34 as shown on the attached pages.



Signed and Sealed this

Fifteenth Day of November, 2005

JON W. DUDAS
Director of the United States Patent and Trademark Office

(12) **United States Patent**
Jürgensen

(10) Patent No.: **US 6,888,853 B1**
(45) Date of Patent: **May 3, 2005**

(54) **LASER RADIATION SOURCE**

(75) Inventor: **Helarich Jürgensen, Ralsdorf (DE)**

(73) Assignee: **Hell Gravure Systems GmbH, Kiel (DE)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/786,742**

(22) PCT Filed: **Sep. 1, 1999**

(86) PCT No.: **PCT/DE99/02721**

§ 371 (c)(1).

(2), (4) Date: **Sep. 14, 2001**

(87) PCT Pub. No.: **WO00/13839**

PCT Pub. Date: **Mar. 16, 2000**

(30) **Foreign Application Priority Data**

Sep. 8, 1998 (DE) 198 40 926

(51) Int. Cl.⁷ **H01S 3/067; B41F 9/00; G03F 7/00; B41J 2/435**

(52) U.S. Cl. **372/6; 372/9; 372/24; 101/150; 101/153; 430/269; 430/300; 430/307; 347/224; 347/233; 347/238; 347/241**

(58) Field of Search **372/6, 9, 24, 26; 372/69; 101/150, 153; 430/269, 300, 307; 347/224, 233, 238, 241**

(56) **References Cited**

U.S. PATENT DOCUMENTS

3,931,458 A • 1/1976 Dial 358/3.29
RE32,139 B • 5/1986 Thudi et al. 358/5.24
4,729,037 A • 3/1988 Doolves 358/3.29
5,202,893 A • 4/1993 Kubota et al. 372/34
5,363,233 A • 11/1994 Pernick 359/316
5,369,661 A • 11/1994 Yamaguchi et al. 372/69
5,373,526 A • 12/1994 Lam et al. 372/69

5,654,125 A • 8/1997 Fan et al. 430/306
5,719,009 A • 2/1998 Fan 430/306
5,760,880 A • 6/1998 Fan et al. 355/67
5,780,200 A • 7/1998 Kitaguchi et al. 430/270.1
5,798,202 A • 8/1998 Cushman et al. 430/306
5,829,881 A • 11/1998 Furlani et al. 384/42
5,867,305 A • 2/1999 Wharis et al. 359/341
5,900,109 A • 5/1999 Sanden et al. 156/532
5,949,466 A • 9/1999 Kerr et al. 347/213
5,953,036 A • 9/1999 Furlani et al. 347/139
6,106,627 A • 8/2000 Yialidis 118/724
6,136,575 A • 10/2000 Brenner et al. 427/277
6,167,075 A • 12/2000 Craig et al. 372/75
6,283,022 B1 • 9/2001 Kansen et al. 101/129

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EP 0 741 335 10/2000

OTHER PUBLICATIONS

Fiber Technology Users In New Laser Devices—Feature: Fiber Lasers May 1991 Laser Focus World—pp. 231–238.
1998 Semiconductor Laser Product Catalog—SDL Copyright 1997 SDL, Inc. pp. 40–45.

• cited by examiner

Primary Examiner—Don Wong

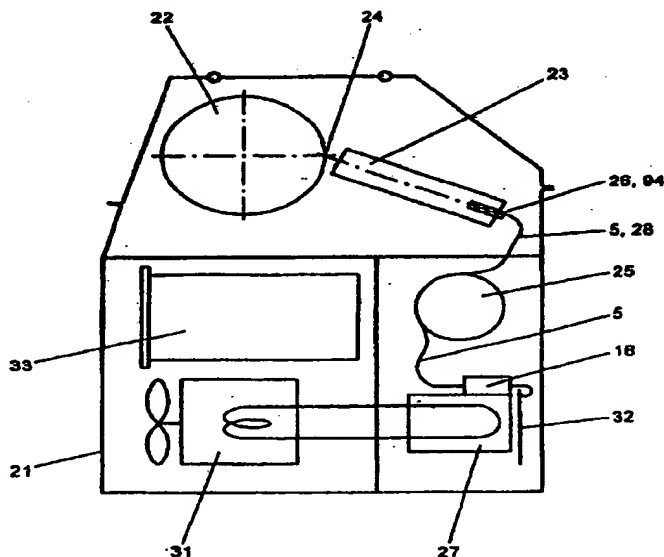
Assistant Examiner—James Menefee

(74) Attorney, Agent, or Firm—Schiff Hardin LLP

(57) **ABSTRACT**

A system and method for selectively process material on a processing surface of a printing form to create a fine structure or pattern for images or text. At least one fiber laser comprising a pump source and a laser fiber is provided. A laser gun is mounted adjacent the printing form and has at least a focusing optics. The fiber laser outputs a laser beam which is diffraction-limited to permit the focusing optics to focus the laser beam onto the processing surface of the printing form as a spot having a spot size sufficiently small to process the processing surface to create the fine structure or pattern images or text.

296 Claims, 39 Drawing Sheets



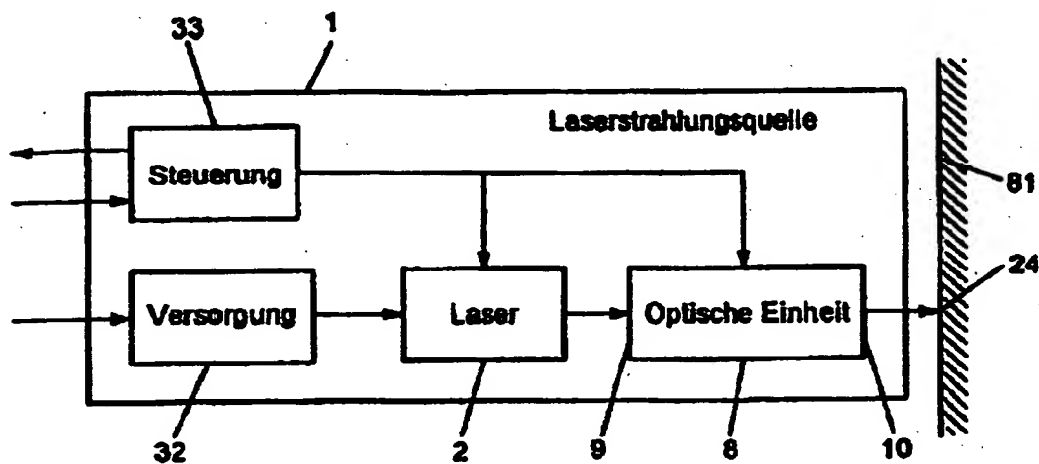


Fig. 1

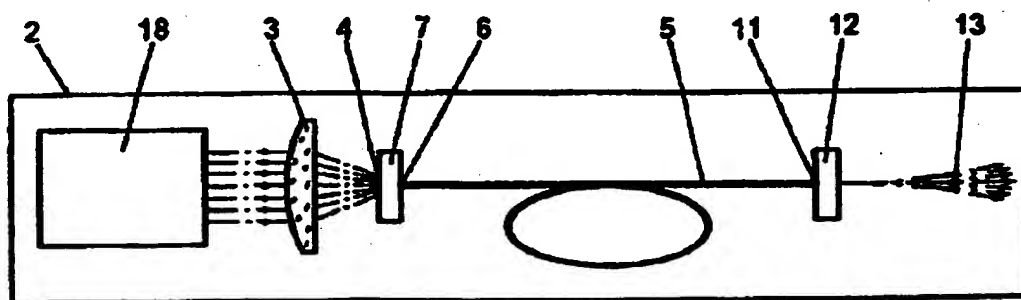


Fig. 2

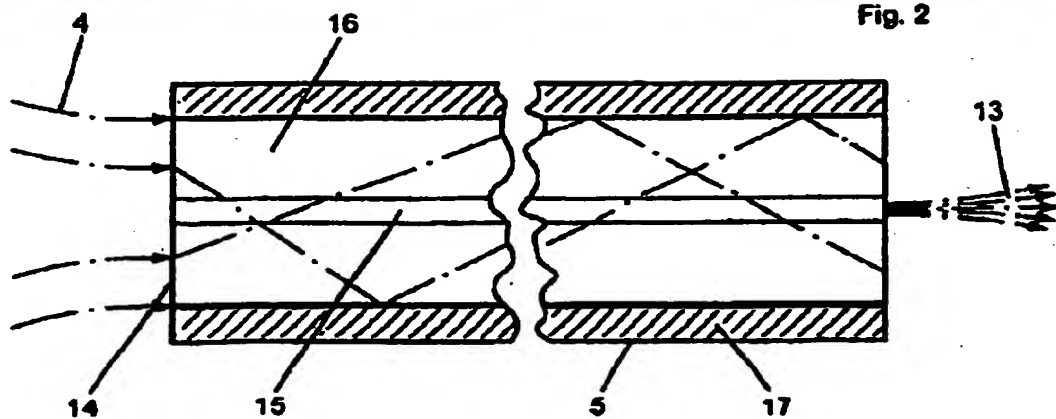


Fig. 2a

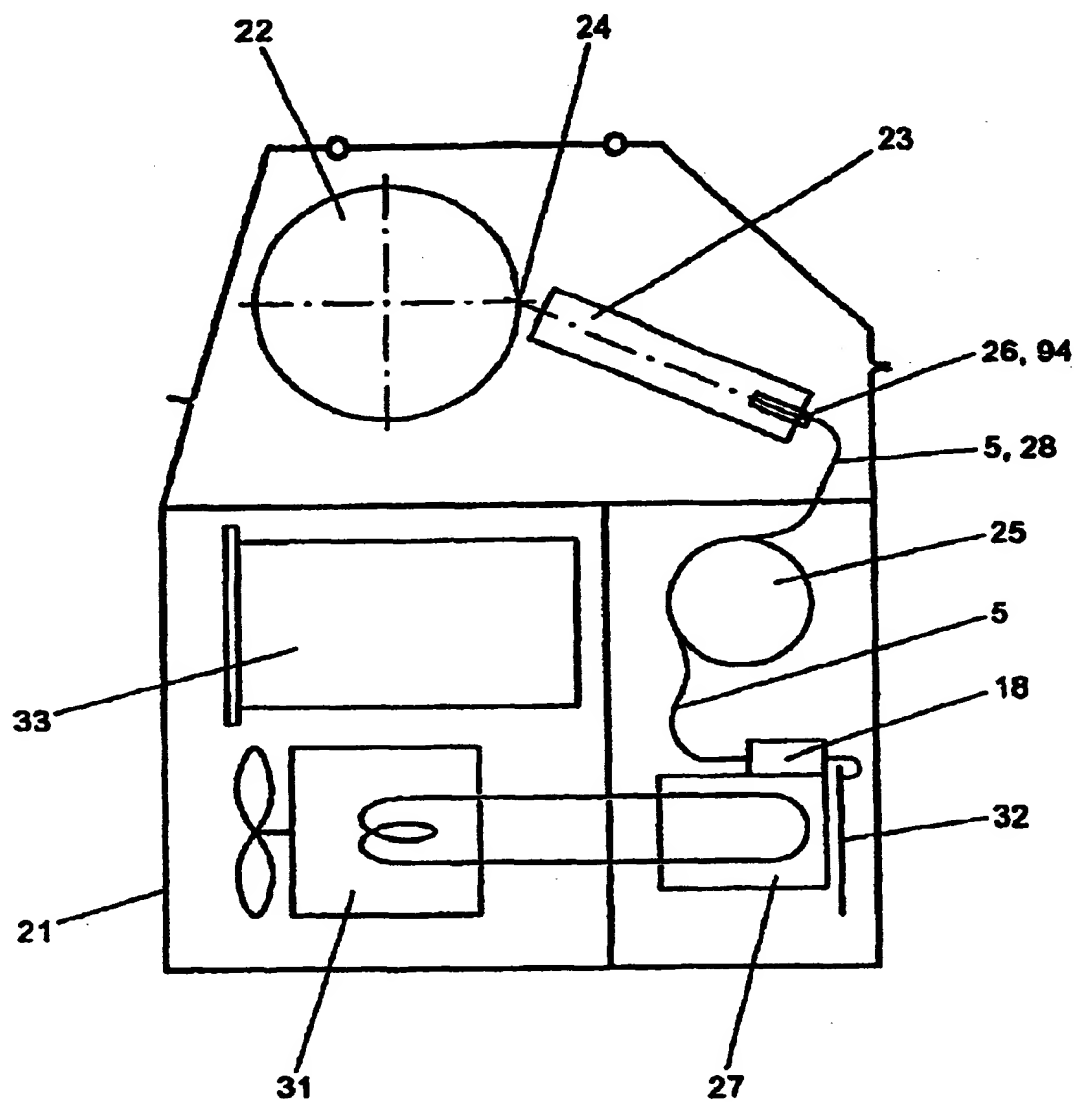


Fig. 3

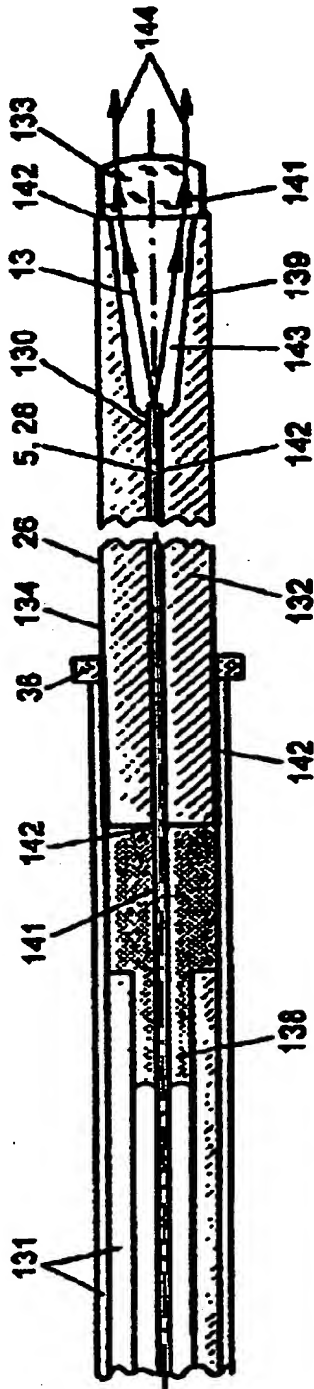


Fig. 5

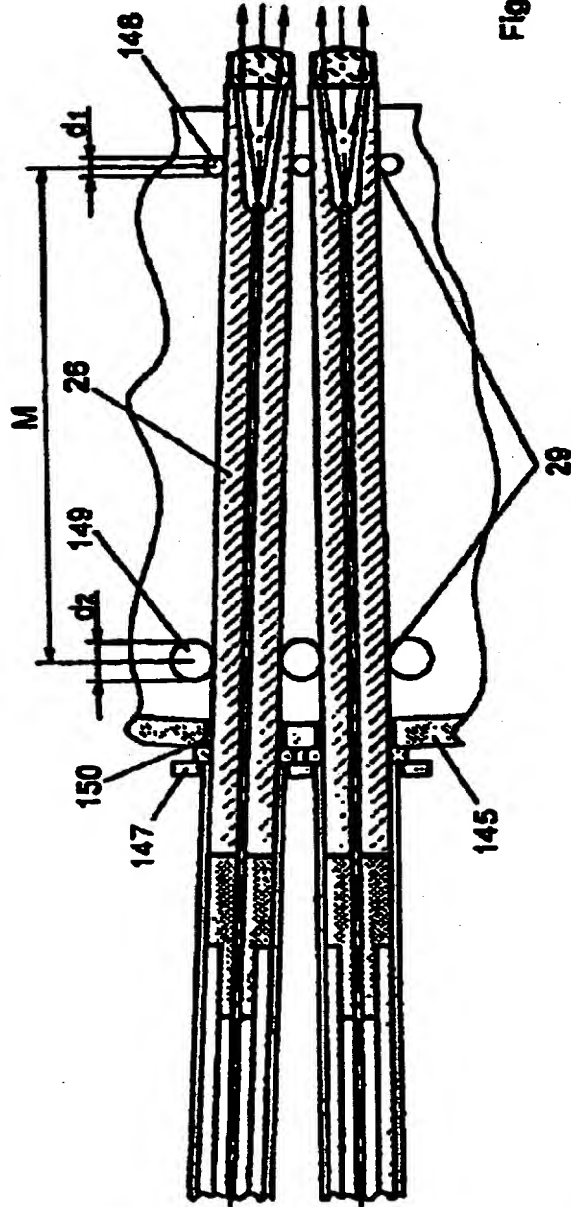


Fig. 5a

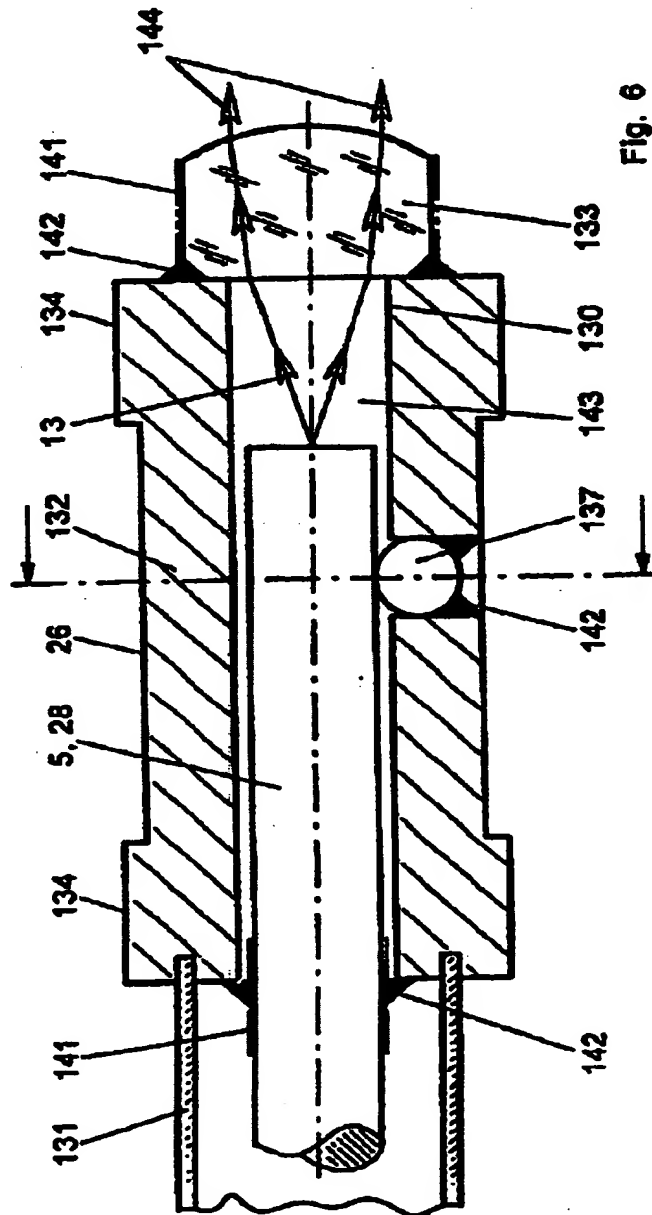


Fig. 6

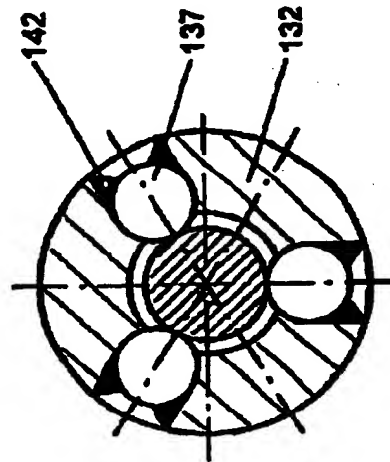


Fig. 6a

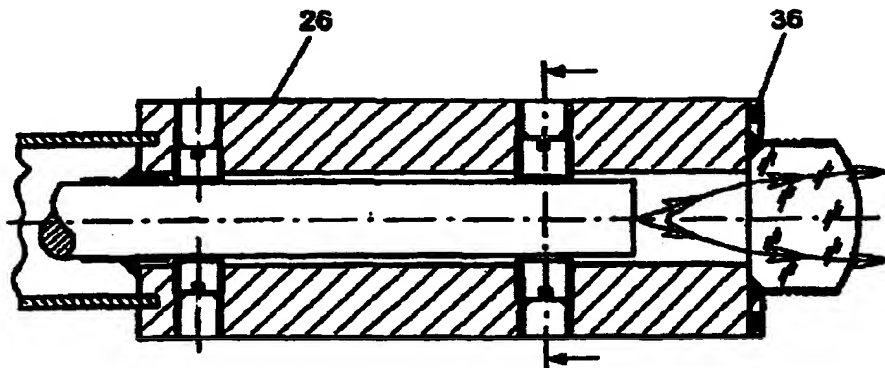


Fig. 9

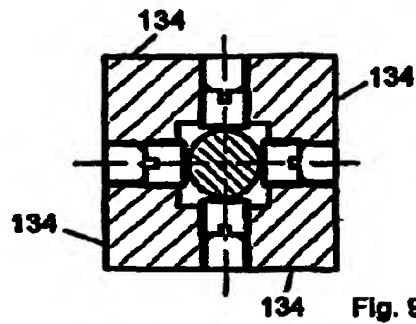


Fig. 9a

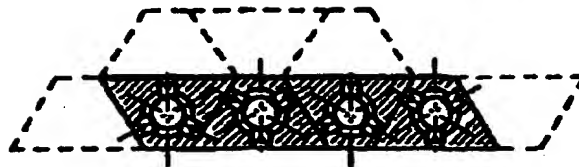


Fig. 11

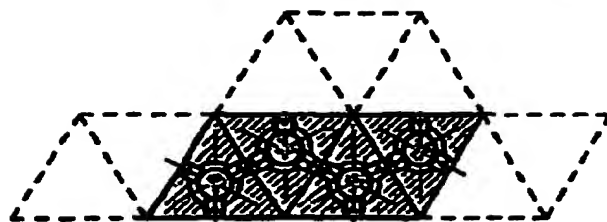


Fig. 11a

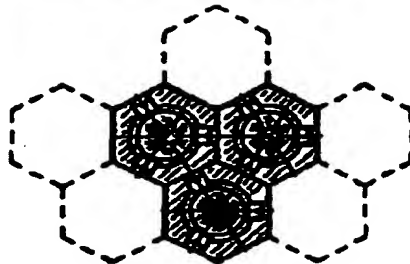


Fig. 12

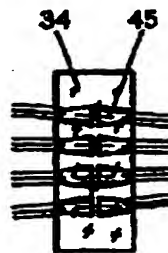
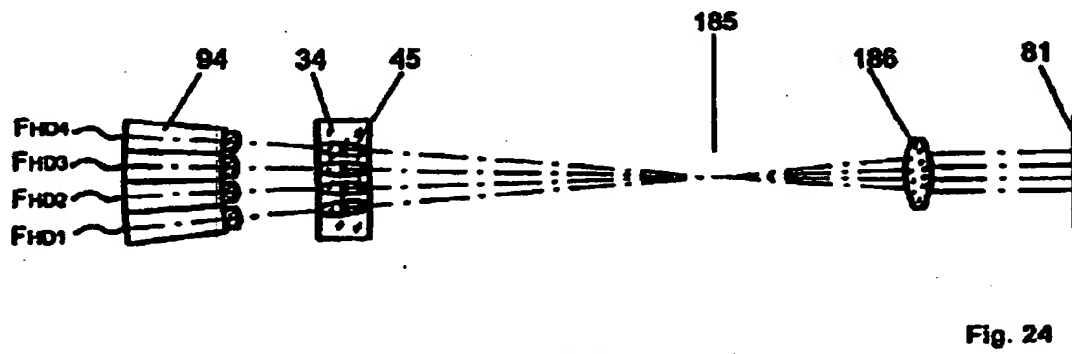
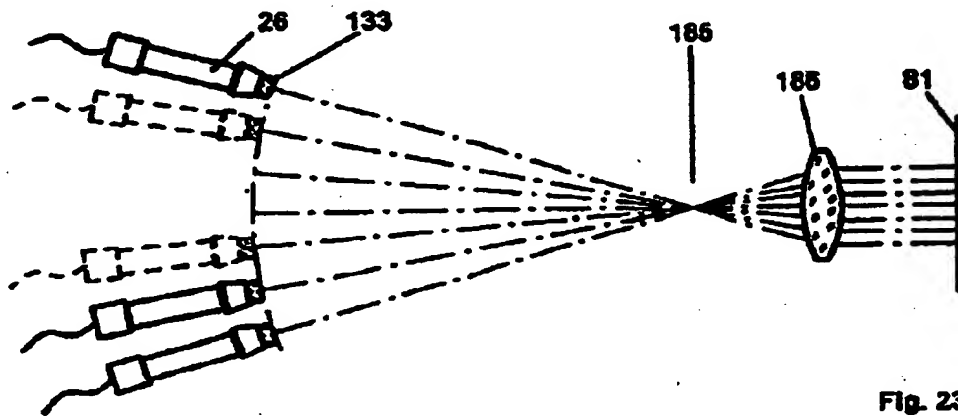
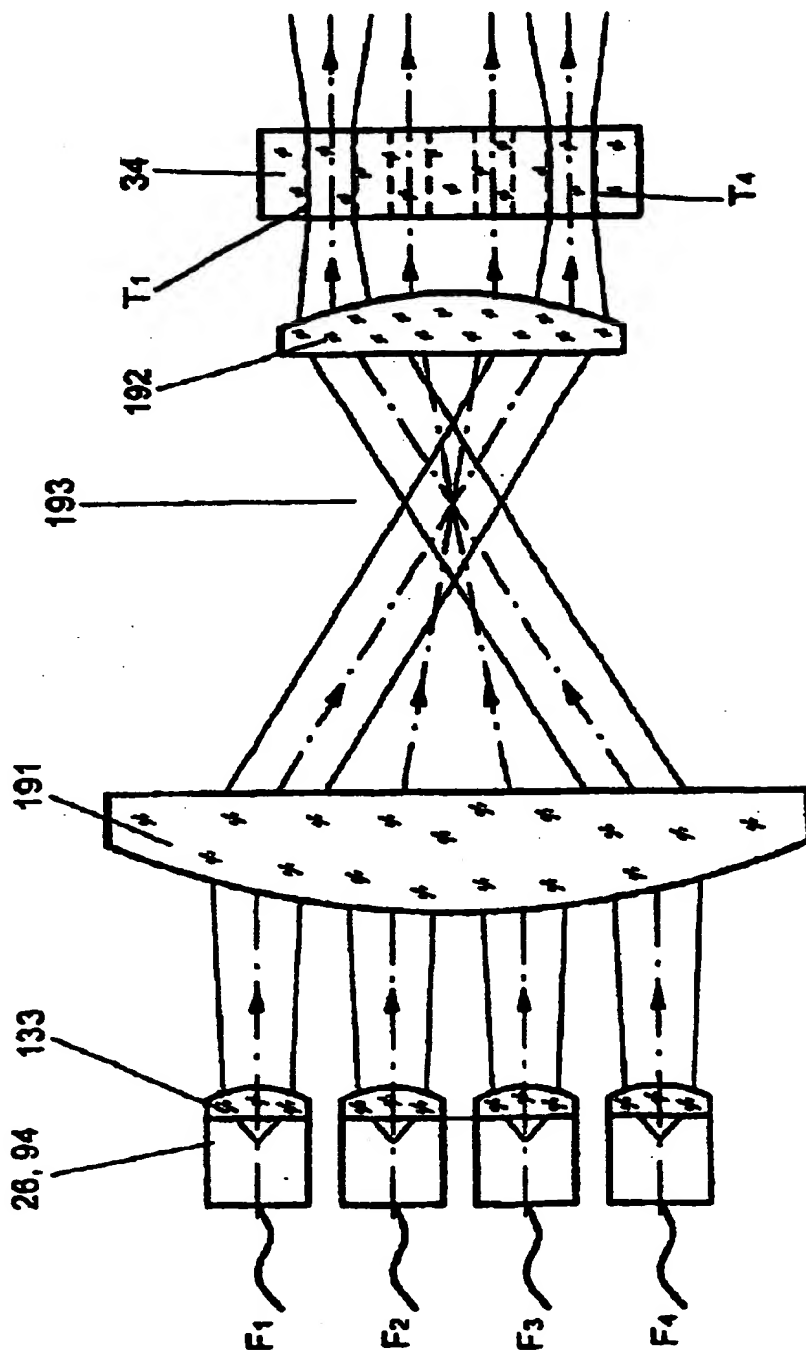


Fig. 25



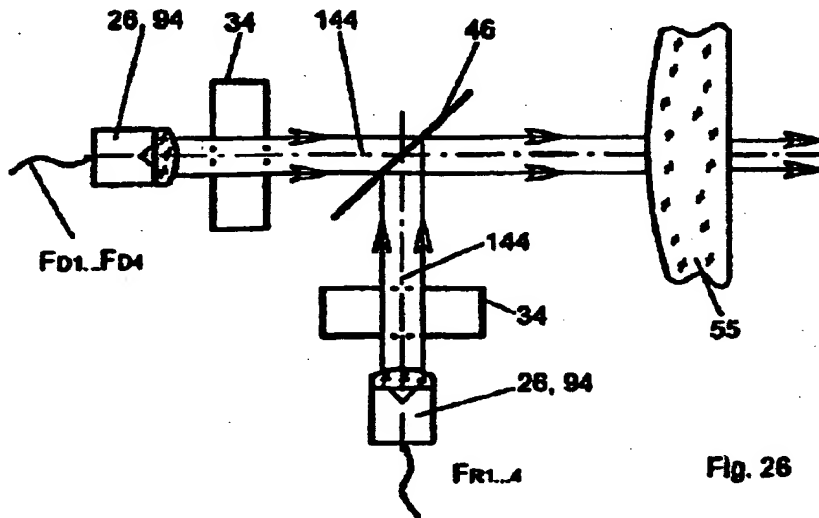


Fig. 26

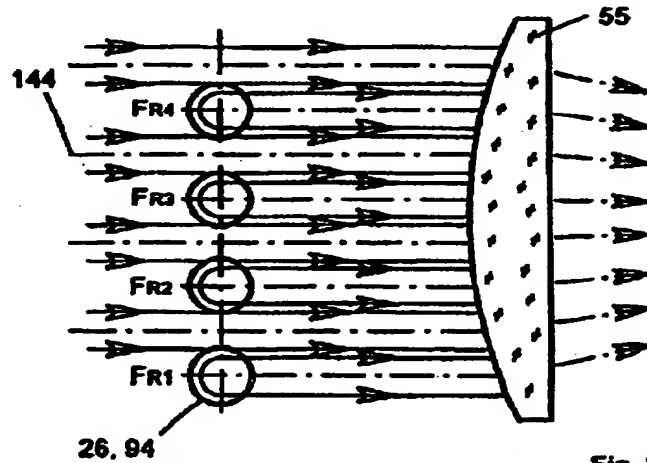


Fig. 26a

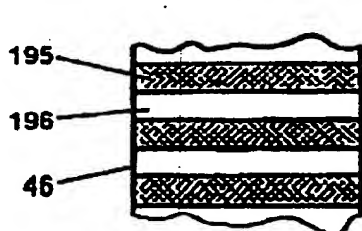


Fig. 27

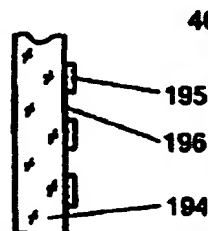


Fig. 27a

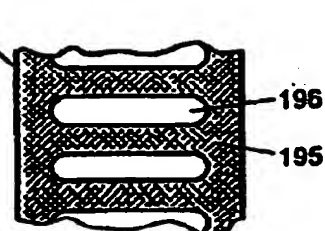


Fig. 27b

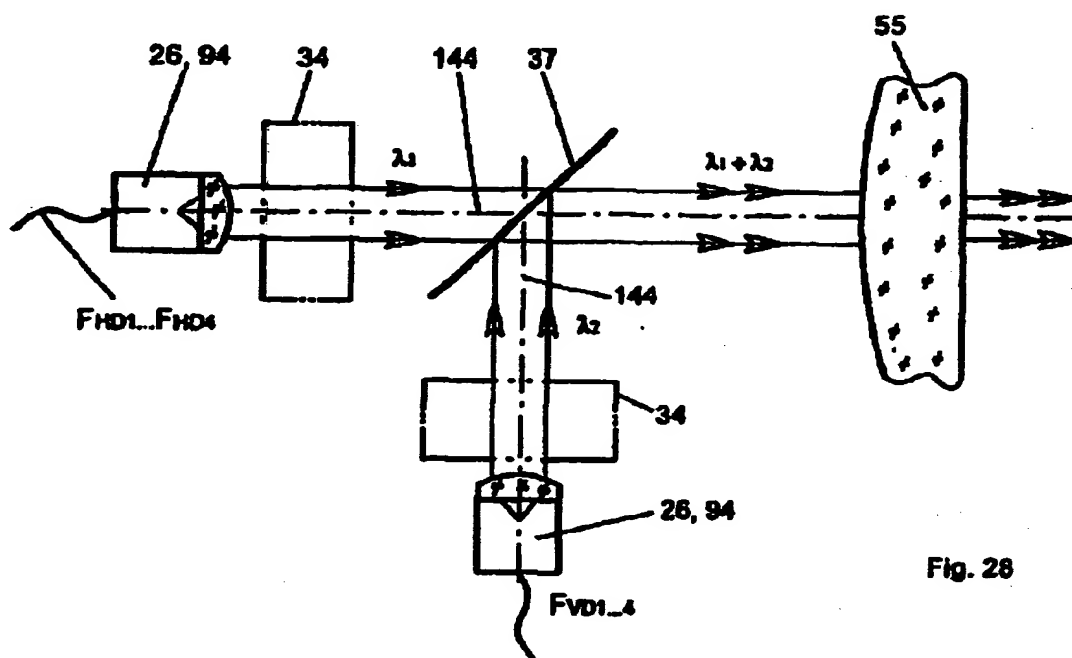


Fig. 28

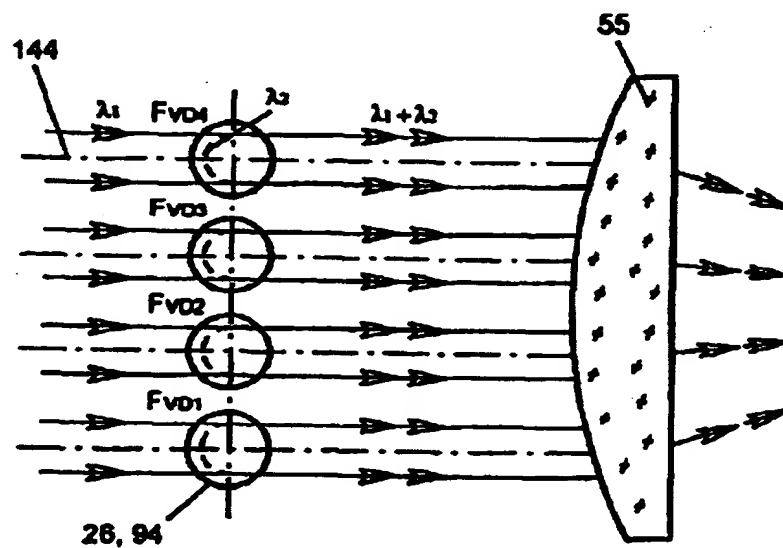


Fig. 28a

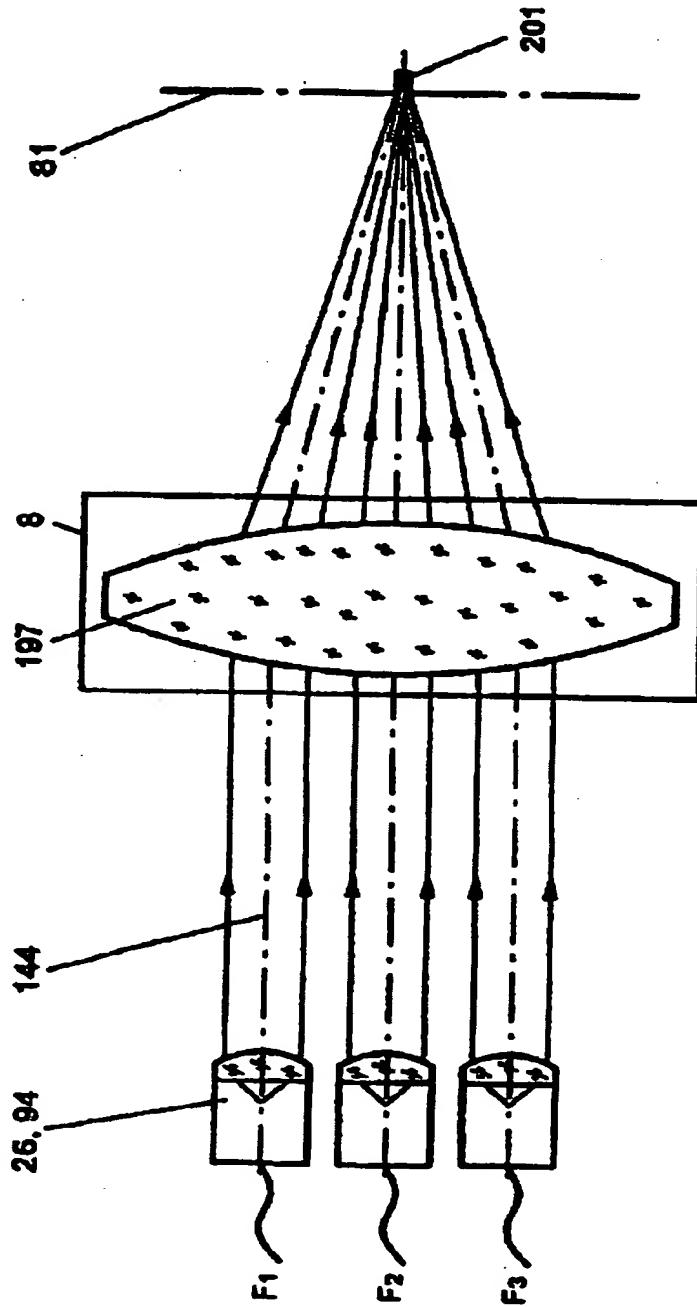


Fig. 31

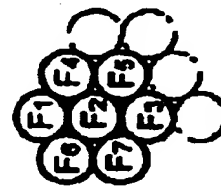


Fig. 30

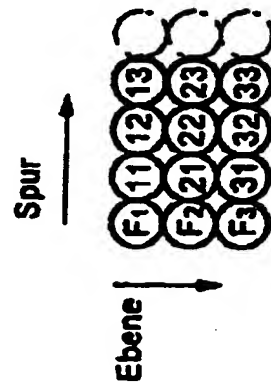


Fig. 29

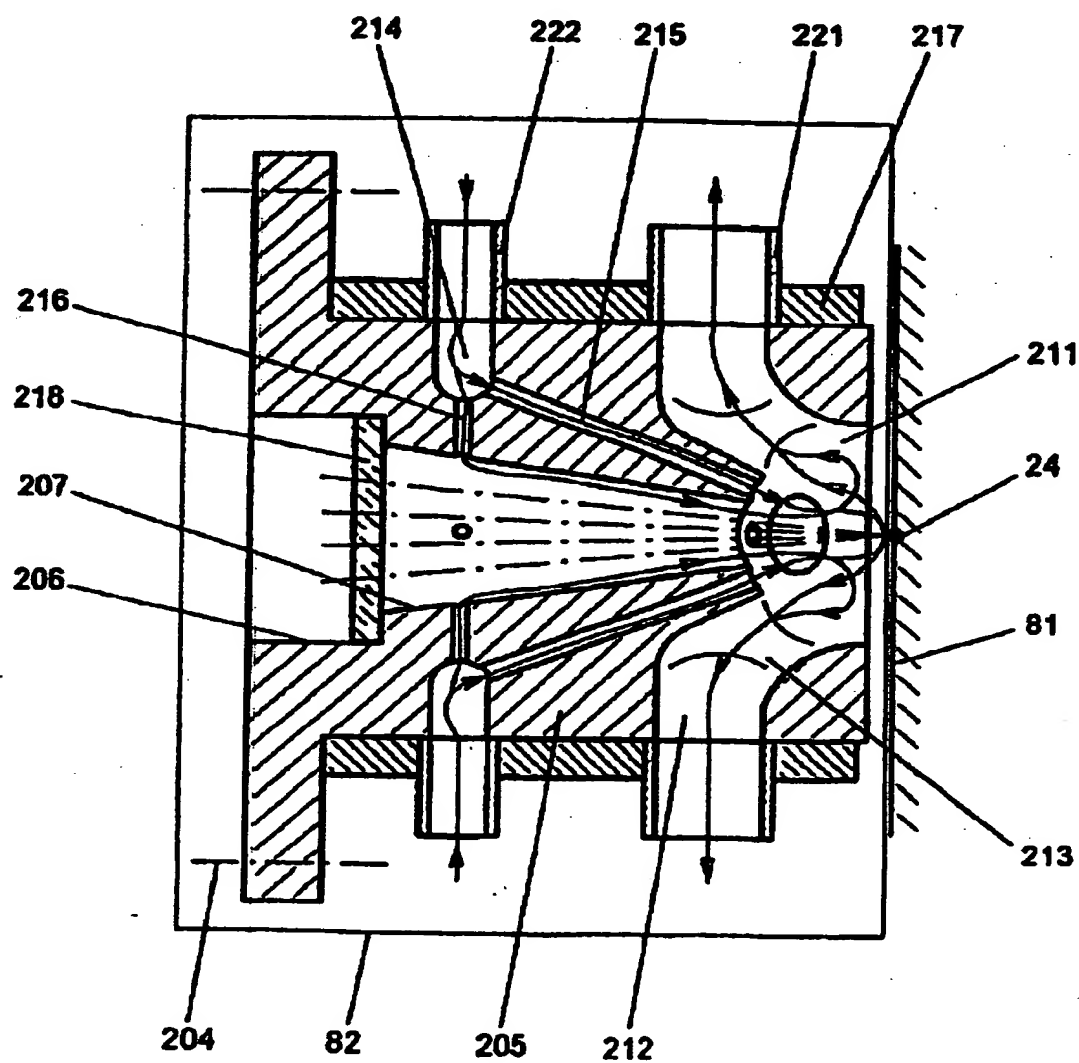


Fig. 34